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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/468,249	12/10/1999	MIKE CHANG	M-7970-US	3399

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SKJERVEN MORRILL LLP  
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SAN JOSE, CA 95110

EXAMINER

RAO, SHRINIVAS H

ART UNIT PAPER NUMBER

2814

DATE MAILED: 07/14/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/468,249

Applicant(s)

CHANG ET AL.

Examiner

Steven H. Rao

Art Unit

2814

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 02 May 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-8 and 10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) 1-8 and 10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 December 1999 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

***Response to Amendment***

Applicants' amendment filed August 16, 2002 has been entered on August 28, 2002 and the Supplemental amendment faxed on October 31, 2002 has been entered on October 31, 2002.

Therefore claim 1 as amended by the supplemental amendment and claims 2-8 as originally filed are currently pending in the application.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-8, 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese Patent Publication No. 9-64421 (herein after Yamada I) and Japanese Patent Publication No. 6-1777429 (herein after Yamada-II) both previously applied and further in view of Ishikawa et al. (U.S. patent No. 6,046,501 herein after Ishikawa).

With respect to claim 1, Yamada I and II substantially describe all of the recited features as previously stated in the Office Actions and incorporated herein by reference.

The newly added limitation, " at least one lead of the lead frame having a portion that extends laterally to be coplanar with the front side of the die along a substantial portion of its length, " is not specifically described or taught by Yamada -I or Yamada - II.

However, Ishikawa, a patent from the same filed of endeavor, in fig.6 etc and col. 12 lines 59-65 describe a at least one lead of the lead frame having a portion that extends laterally to be coplanar with the front side of the die long a substantial portion of its length to reduce the increased inductance in the semiconductor device.

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to substitute Ishikawa's coplanar lead frame having a portion that extends laterally to be coplanar with the front side of the die in the place of Yamada I and II's lead frame in the latter's (Yamada I or device to II 's) devices to reduce the increased inductance in the semiconductor device. (Ishikawa col. 2 lines 23-24).

With respect to claim 2, Yamada-1 describes a semiconductor package including : a layer of conductive cement located inside the cup between the first terminal and the lead frame ( Yamada-1, fig. 1 # 6 between 7-1 and the cup 5).

With respect to claim 3, Yamada -1 describes a semiconductor package including : conductive epoxy ( Sono describes in col. 7 lines 43 ) .

With respect to claim 4, Yamada -1 describes a semiconductor package including : plastic capsule in contact with an outside cup ( Sono figure 11, etc.)

With respect to claim 5, Yamada -1 describes a semiconductor package including : wherein the die is in electrical contact with a bottom of the cup (Yamada -1, fig. 1 3 in electrical contact with 5 )

With respect to claim 6, Yamada -1 describes a semiconductor package including : wherein a plastic material is located inside the cup between an edge of the die and the lead frame (Sono describes in col. 7 lines 43).

With respect to claim 7, Yamada -1 describes a semiconductor package including : wherein the semiconductor die comprises a MOSFET. (well known in the art).

With respect to claim 8, Yamada -1 describes a semiconductor package including : wherein semiconductor die comprises an Integrated circuit ( Yamada1 figs.).

With respect to claim 10, the package further comprising a plastic capsule in contact with the outside of the cup and wherein no part of the plastic cup capsule extends between the lead and the support surface when the die is mounted on the support surface. ( Soñõ figure 21 A).

***Response to Arguments***

Applicant's arguments with respect to claims 1 have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven H. Rao whose telephone number is 703-306-5945. The examiner can normally be reached on M-F, 8.00 to 5.00.

The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7722 for regular communications and 703-308-7724 for After Final communications.

Application/Control Number: 09/468,249

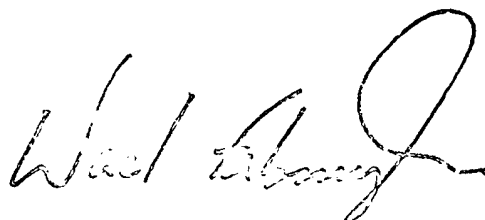
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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703- 308-

0956.

*SA*  
*July 17/03*



SUPERVISORY PRIMARY EXAMINER  
TECHNOLOGY CENTER 2800